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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/714,047	11/13/2003	Gregor Dudziak	100717-606 / Bayer 10267	3213
27386 7590 12/14/2007 NORRIS, MCLAUGHLIN & MARCUS, P.A. 875 THIRD AVE 18TH FLOOR NEW YORK, NY 10022			EXAMINER OLSEN, KAJ K	
			ART UNIT 1795	PAPER NUMBER
			MAIL DATE 12/14/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/714,047

Applicant(s)

DUDZIAK ET AL.

Examiner

Kaj K. Olsen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 September 2007 and 09 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-18 is/are allowed.
- 6) ☒ Claim(s) 19-26 is/are rejected.
- 7) ☒ Claim(s) 1 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Objections*

1. Claims 1 and 19 are objected to because of the following informalities: In claim 1, ll. 8 and 9 and in claim 19, ll. 7 and 8, applicant misspells --diluate-- as "dilute". Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 19-22, 24, and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Sanchez et al (USP 4,758,320).
4. As to Claim 19, Sanchez et al. disclose an appliance for membrane electrophoresis comprising an at least quadripartite separation chamber (Figure 1) having a diluate space, a concentrate space (4, 5), an anode space, and a cathode space (8, 9), having electrodes as the anode and cathode (col. 5, ll. 9-11); the spaces separated by porous membranes (2, 3), especially ultrafiltration or microfiltration membranes (col. 3, ll. 47-53); feed lines and discharge lines for the diluate, concentrate, and electrode rinsing solution (Figure 1); and a pressure difference of at least 3 kPa between the diluate and concentrate spaces (col. 3, ll. 43-46). The cathode and anode spaces are separated from the dilute and concentrate spaces by

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membranes 14 and 15, which are disclosed as being only ion-permeable. Because these membranes are only ion-permeable and are disclosed as not even permitting solvent permeability (col. 6, ll. 48-64), they read on the applicant's term "restriction membrane" and they would have a substantially lower cutoff point than the ultrafiltration membranes because the ultrafiltration and microfiltration membranes are porous enough to permit molecules less than 200 Angstrom or 10 microns to pass whereas the restriction membranes (14, 15) would permit only much smaller ions. See col. 3, ll. 47-53.

5. As to Claim 20, Sanchez et al. disclose the separation chamber divided into several diluate and concentrate spaces (4, 5).
6. As to Claim 21, Sanchez et al. disclose the diluate and concentrate spaces (4, 5) being separated by either porous restriction or separation membranes (2,3); connected in parallel or in series (col. 5, ll. 6-8); and arranged alternately between the anode and cathode space (8, 9) (col. 4, ll. 3-12, Figure 1).
7. As to Claim 22, Sanchez et al. disclose the feed and discharge lines for the diluate, concentrate, and electrode rinsing solution are arranged in separate circuits (Figure 1).
8. As to Claim 24, Sanchez et al. disclose a membrane pore size from 1 to 1000 nm (col. 3, ll. 46-53).
9. As to Claim 25, Sanchez et al. disclose the membranes formed of polyacrylonitrile (col. 4, ll. 48-55).

***Claim Rejections - 35 USC § 103***

10. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

11. Claims 19-22, 24, and 25 in the alternative are rejected under 35 U.S.C. 103(a) as being unpatentable over Sanchez in view of Ogle et al (US 2003/0019753 A1).

12. In the rejection above, Sanchez was interpreted as meeting the new limitations regarding the restriction membrane cutoff points because the ion permeable membranes of Sanchez would clearly have cutoff points much lower than the cutoff points for the ultrafiltration or microfiltration membranes. However, even if the ion-permeable membranes of Sanchez were interpreted as not meeting this new limitation, Ogle teaches the use of restriction membranes between the anode and cathodes and the other chambers of the device that have cutoff points that are clearly smaller the cutoff points for the remaining membranes in the electrophoretic chamber. See paragraph 0165 where the restriction membranes have a cutoff of 500 dalton while the remaining membranes include cutoffs of 100,000 to a 1,000,000 dalton. Because only ion-transfer is needed through the membranes separating the anode and cathode spaces from the concentrate and diluate spaces of Sanchez (col. 6, ll. 48-53), one possessing ordinary skill in the art at the time the invention was being made would have recognized that ion-permeable membranes having a lower cutoff point than the remaining membranes (as taught by Ogle) would have yielded the predictable result of having the anode and cathodes spaces in electrical connection with the diluate and concentration spaces without a large degree of macromolecular transfer.

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13. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sanchez or Sanchez in view of Ogle, and in further view of Gritzner (USP 4,043,895).

14. This claim remains rejected for the reasons set forth in the previous office action.

15. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sanchez or Sanchez in view of Ogle, and in further view of Ahlgreen et al (USP 4,043,896).

16. This claim remains rejected for the reasons set forth in the previous office action.

#### ***Response to Arguments***

17. Applicant's arguments filed 9-17-2007 have been fully considered but are not persuasive. Applicant urges that Sanchez does not teach the use of a restriction membrane having a substantially lower cutoff point. However, the ion-permeable membranes (14, 15) of Sanchez would clearly have a much lower cutoff point than the ultrafiltration or microfiltration membranes are the examiner discussed above. Furthermore, even if the examiner were persuaded that the ion-permeable membranes of Sanchez do not have a cutoff point per se, then the claims would have been obvious over the further teaching of Ogle.

#### ***Allowable Subject Matter***

18. Claims 2-18 are allowed and claim 1 would be allowed if the spelling errors were corrected.

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***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kaj Olsen whose telephone number is (571) 272-1344. The examiner can normally be reached on Monday through Friday from 8:00 A.M. to 4:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen, can be reached on 571-272-1342. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AU 1795  
December 11, 2007

  
KAJ K. OLSEN  
PRIMARY EXAMINER